

REMARKS

A replacement page 12 is submitted herewith. No new matter is being added to the application. Corrections were noticed when preparing this response.

Claim 1 has been amended to avoid the section 112 and 102 rejections. First, claim 1 now recites a continuous top flat surface of the top plate of the link and a continuous flat surface portion of the engagement portion of the link.

An understanding of the term “overlapped” may be gained from the specification in view of Fig. 5. Fig. 5 illustrates how adjacent links articulate or bend around a curved section of the conveyor chain. Claim 1 has been further amended to recite the inclusion of a curved conveying section to obviate the rejection based on a lack of antecedent basis. Central axis “C” is illustrated in Fig. 5 and the cross-hatched portion of Fig. 5 represent flat surfaces of the conveyor chain. It is necessary to maintain sufficient continuity of these flat surfaces so as to keep bottles and the like traveling on the conveyor in the upright positions as they move around (i.e., slide) on the conveyor due to external forces such as centrifugal forces. Referring again to Fig. 5, as the Central axis “C” is traced from the bottom of the drawing to the top of the drawing it will be noted that cross hatching (flat spaces) exist immediately adjacent each side of the axis. If the conveyor chain was very large, it could carry several people for instance, and a person could walk along the central axis “C” and have a flat place to step at every point along the walk (axis). It is in this sense that the term “overlapped” is being used because flat space overlaps the sides of the entire length of the axis as well as along the axis itself.

New claims 2-4, directly or indirectly dependent on claim 1 have been added to claim the features of the dummy hinges, and to express the overlapping in regard to the central axis.

New claim 5 has been added to express the overlapping of the flat surfaces in regard to the central axis. New claim 6, dependent on claim 5, recites the articulation of adjacent links and the overlapping with the central axis.

Claim 1 was rejected under 35 USC Section 102(b) as anticipated by Palmaer and Horton. Neither Palmaer nor Horton disclose the continuous flat surfaces of the top plate and the hinge portions as now claimed in claims 1 and 5. Palmaer and Horton appear to be chain type conveyors with gaping holes and open spaces therein. It does not appear that Horton has a central axis. Nor do either of these references disclose overlapping of these continuous flat surfaces.

Neither reference discloses dummy hinges.

An information disclosure statement is being submitted herewith.

Applicant requests reconsideration of claim 1 as it is believed to be patentable.

Applicants respectfully urges that new claims 2-6 are also patentable. Applicant thanks the Primary Examiner for his review of the application. Applicant invites a telephone call from the Primary Examiner if any question can be answered or if the application can be expedited in any way.

Respectfully submitted,

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Replacement Page

link 11 and the adjacent link so that they are moved to the adjacent link without changing their positions at all.

As described above, in the conveyor chain according to the present invention, the hinges 14, 15, 21 and 22 respectively include flat surface portions 27, 28, 29 and 30, overlapped with each other and substantially flush with the top surface 13 of a top plate 12 in the vicinity of a pin 20, which connects the adjacent link, and conveying objects are smoothly moved to the adjacent link without falling. Accordingly, the conveying objects can be conveyed in a curve at high speed.

Further, a front dummy hinge 21 and a rear dummy hinge 22 prevents the generation of a large space between a link 11 and the adjacent link, which is positioned outside a curved conveying section, so that conveying objects do not drop between links. Accordingly, in the present invention the conveying objects can be conveyed in a curve at high speed, and even conveying objects having high center of gravity, such as a pet bottle, and the like, can be conveyed in a curved conveying section at high speed.

The example explained above includes the front dummy hinge 21 and the rear dummy hinge 22 on the top plate 12 and also includes the link 11 as a hinge portion 17 connected to the front hinge 14 and the rear hinge 15 positioned outermost sides by walls 16 extending from the lower surface of the top plate 12 in the link portion 11. However, the example can take another form of links. In that case, a flat surface portion of an engagement portion positioned between links, which is connected to a top plate is extended toward the adjacent link positioned on the front or rear side with respect to a pin.